2. (Amended) The method of claim 1, in which said somatic cell also contains altered levels of a protein that is regulated by p53.

3. (Amended) The method of claim 2, wherein said protein regulated by p53 is proliferating cell nuclear antigen.

4. (Amended) The method of claim 2, wherein said protein regulated by p53 is selected from the group consisting of murine double minute chromosome clone number 2 and vascular endothelial growth factor.

5. (Amended) The method of claim 1, in which said somatic cell is identified by immunohistochemical staining for p53.

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cont.

6. (Amended) The method of claim 2, in which said somatic cell is identified by immunohistochemical staining for p53 and for said protein regulated by p53.

7. (Amended) The method of claim 1, in which said amplification is conducted in the presence of a compound selected from the group consisting of mouse DNA, bovine serum albumin and both mouse DNA and bovine serum albumin.

8. (Amended) The method of claim 26, wherein said DNA of the human p53 gene contains a segment in the human p53 gene spanning exons 5 to 9.

9. (Amended) The method of claim 8, wherein said DNA is at least 1 kb in size.

10. (Amended) The method of claim 8, wherein said DNA is at least 2 kb in size.

11. (Amended) The method of claim 7, in which said mouse DNA has an average size of at least about 20 kb.

12. (Amended) The method of claim 1, in which the method is performed on a single somatic cell which is obtained by microdissection from a paraffin-embedded tissue section.

13. (Amended) The method of claim 12, in which said tissue section is fixed with ethanol.

A8 cont.

14. (Amended) The method of claim 12 in which said tissue section is subjected to steam heating in the presence of EDTA.

15. (Amended) The method of claim 1, in which the amplification step is performed using two different DNA polymerases.

16. Canceled.

17. Canceled.

18. (Amended) The method of claim 11, in which amplification is performed using primers GCCGTCTTCCAGTTGCTTTATCTGTTCACT (SEQ. ID. NO. 1) and CCTGATGGCAAATGCCCCAATTGCAGGTAA (SEQ. ID. NO. 2).

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19. (Amended) The method of claim 11, in which amplification is performed using primers GCCGTCTTCCAGTTGCTTTATCTGTTCACT (SEQ. ID. NO. 1) and GTCAAGTAGCATCTGTATCAGGCAAAGTCATAG (SEQ. ID. NO. 3).

25. (Amended) The method of claim 1, in which the frequency or nature of mutations is determined by sequence analysis using a primer selected from the group consisting of TGCCCTGACTTTCAACTCTGTCTC (SEQ. ID. NO. 5), AGGGTCCCCAGGCCTCTGAT

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A10 cont.

(SEQ. ID. NO. 6), GGCCACTGACAACCACCCTTAA (SEQ. ID. NO. 7), AGGTCTCCCCAAGGCGCACT (SEQ. ID. NO. 8), GGGGCACAGCAGGCCAGTGT (SEQ. ID. NO. 9), GGAGAGACCGGCGCACAGA (SEQ. ID. NO. 10) and CGGCATTTTGAGTGTTAGACTGGA (SEQ. ID. NO. 11).

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26. (New) The method of claim 1, wherein said DNA is human p53 gene DNA.